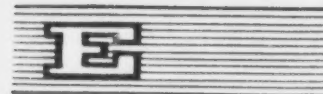




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ECONOMIC COMMISSION FOR AFRICA

Eighth meeting of the Technical
Preparatory Committee of the
Whole

Addis Ababa, Ethiopia
13-20 April 1987

Item 12 of the provisional agenda*

ECONOMIC COMMISSION FOR AFRICA

Twenty-second session of the Commission/
thirteenth meeting of the Conference
of Ministers

Addis Ababa, Ethiopia
23-27 April 1987

Item 6 of the provisional agenda**

REPORT ON THE INTERNATIONAL SCIENTIFIC CONFERENCE ON THE
CAUSES OF THE LAKE NYOS DISASTER

* E/ECA/TPCW.8/1.

** E/ECA/CM.13/1.

I. INTRODUCTION

1. The International Scientific Conference on the causes of the Lake Nyos disaster in Cameroon was held in Yaounde, Cameroon, from 16 to 20 March 1987. The Conference was held at the initiative of the President and Government of the Republic of Cameroon. In response to that initiative, the Conference of Ministers of the Economic Commission for Africa (ECA) at its second extraordinary session held in Addis Ababa, in October 1986, adopted resolution ES.2/3 requesting the Executive Secretary of the Commission and the Administrator of the United Nations Development Programme (UNDP) and other concerned agencies of the United Nations system to provide additional resources in order to assist the Government of Cameroon in the organization of this Conference. Pursuant to that resolution, UNDP in consultation with the Government of Cameroon selected UNESCO to administer the project resources provided by UNDP, in collaboration with ECA.

2. The objectives of the Conference were to:

(a) Present and discuss the results of the investigations carried out in the field after the disaster;

(b) Determine the cause(s) and evaluate the consequences of the catastrophe;

(c) Mobilize the international scientific community to undertake research aimed at understanding such phenomena;

(d) Define measures to be taken in order to prevent the recurrence of this type of disaster in the short, medium and long term;

(e) Advise on problems of land use and resettlement;

(f) Promote the transfer of technology related to the prevention of such disasters;

(g) Make workable recommendations to the Government of Cameroon.

II. ATTENDANCE AND ORGANIZATION

3. The Conference was attended by over 120 scientists from 25 countries in Africa and overseas, including those countries that sent missions to the scene after the incident. Also attending were 76 Cameroonian scientists and other professionals in medicine, social studies, economics and anthropology.

4. The countries represented were Algeria, Austria, Burkina Faso, Canada, Chad, China, Côte d'Ivoire, Ethiopia, Federal Republic of Germany, Democratic Republic of Germany, France, Ghana, Guinea, Iceland, India, Israel, Italy, Japan, Kenya, Morocco, New Zealand, Nigeria, Senegal, Switzerland, Uganda, United Kingdom, United Republic of Tanzania, United States of America, Zaire, Zambia and Zimbabwe. The following international and intergovernmental organizations were also represented: Organization of African Unity (OAU), United Nations Development Programme (UNDP), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Health Organization (WHO), Economic Commission for Africa (ECA), United Nations Disaster Relief

Organization (UNDRO), World Meteorological Organization (WMO) and United Nations Centre for Human Settlements (UNCHS).

Official opening ceremony

5. The Conference was opened by the Minister of Higher Education and Scientific Research of Cameroon.

6. In his opening address, the Minister requested participants to rise and observe a minute of silence in memory of those who had died during the Lake Nyos disaster.

7. On behalf of H.E. Paul Biya, President of Cameroon and his Government, he paid great tribute and expressed gratitude to all those who, as individuals, corporate bodies, States or international organizations, had been kind enough to rush to the aid of his country when it was facing very trying times. The preparation and holding of the Conference had been decided upon by the President of the Republic himself. The help of three agencies of the United Nations system (UNDP, ECA and UNESCO) had greatly facilitated matters and deserved to be commended.

8. In his statement, the representative of the United Nations Economic Commission for Africa praised the Head of State, Government and people of Cameroon for the presence of mind they had demonstrated during the incident, the self-help procedures they had instituted for rehabilitating the survivors and the initiative they had taken in convening the international scientific conference on the causes of the Lake Nyos disaster. He hoped that the discussions would come up with practical programme-oriented recommendations for the prevention and/or containment of like incidents in the future. He lauded the assistance and collaboration given by the United Nations system and other international and bilateral agencies and hoped that they would help to implement the recommendations of the Conference.

9. The representatives of UNESCO and UNDP said that their agencies were particularly honoured to have been called upon to assist in the preparation of the Conference and hoped that in the implementation of its recommendations the same spirit of collaboration would prevail.

Election of officers

10. The Minister of Higher Education and Scientific Research supervised the election of the officers of the Conference.

11. At the proposal of the representative of Cote d'Ivoire the Conference unanimously elected the following officers:

Chairman:	Professor Marc Bopelet (Cameroon)
First Vice-Chairman	Dr. John P. Lockwood (USA)
Second Vice-Chairman:	Prof. Haroun Tazieff (France)
Third Vice-Chairman:	Prof. Georgio Marinella (Italy)
Rapporteur General:	Prof. Sigvaldason (Iceland)
Assistant Rapporteurs-General	Dr. Amamoo-Otchere (Nigeria)
	Prof. Paul Nchoji Nkwi (Cameroon)
	Prof. Thomas Njine (Cameroon)

Plenary sessionsGeological and geophysical aspectsCo-Chairmen:

Prof. Gupta (India)
Prof. Felix Tchoua (Cameroon)

Rapporteur:

Dr. Peter Bankwitz (ROA)

Biomedical and physico-chemical aspectsCo-Chairmen:

Prof. Lazare Maptue (Cameroon)
Prof. P.J. Baxter (United Kingdom)

Rapporteur:

Dr. Y. Yamamoto (Japan)

Ecological and agro-pastoral aspectsCo-Chairmen:

Prof. Akpeti (Nigeria)
Dr. Gerban (Ghana)

Rapporteur:

Dr. S. Laham (Canada)

Socio-cultural and economic aspectsCo-Chairmen:

Prof. Shanklin (USA)
Prof. Zitoun (Algeria)

Rapporteur:

Samuel Ndombe-Manga (Cameroon)

Case studies of catastrophesCo-Chairmen:

Dr. Hassan Ahmed Hassan (Kenya)
Dr. Aramari (Japan)

Rapporteur:

Dr. D. Westermann (France)

Working groups:Group A:Causes and mechanisms of the Lake Nyos phenomenonConvenor:

Prof. L. Sigvaldason (Iceland)
Prof. P. Bankwitz (GFR)

Rapporteur:

(France)

Group B:Hazard evaluation and zoningConvenor:

Prof. B.K. Gupta (India)

Rapporteurs:

Mr. J. Tomalin (UNEP)
Dr. R.D. Adams (UK)

12. After the election of the officers, the Minister of Higher Education and Scientific Research suspended the meeting to allow those who were invited only to the opening session, to withdraw.

13. On resumption, at 11.55 a.m., the Chairman, Prof. Marc Bopelet, recalled the objectives of the Conference as stated above and the expectations of the Government of Cameroon. The Conference called for very technical discussions on the papers to be presented so as to determine the causes of the disaster, define the measures to be taken to prevent similar tragedies in future, and suggest measures to be taken with a view to rehabilitating the victims.

14. Prof. Félix Tchoua gave a brief presentation of the findings of the Cameroon scientific team which visited the site a few days after the disaster, and had been carrying out studies on the site since then. Prof. Tchoua informed the group that the multidisciplinary team of geomorphologists, geophysicists, geochemists, medical doctors, ecologists, agriculturists, economists, sociologists, was formed by the Ministry of Higher Education and Scientific Research after the disaster and that this team provided very useful background information to the other 11 scientific teams from overseas that had also been studying the causes of the Lake Nyos disaster. Finally, he reviewed various hypotheses on the causes of the disaster based on the first-hand information the team was able to collect and on the subsequent findings of the other overseas teams.

III. AGENDA AND PROGRAMME OF WORK

15. The following agenda and programme of work were adopted:

(a) Agenda

1. Official opening ceremony
2. Election of officers
3. Presentation of scientific reports
4. Closing ceremony.

(b) Programme of work

Monday, 10 March 1987

Morning :	Opening ceremonies
8 a.m.	Arrival of participants
	Arrival of invited guests
9.25 a.m.	Arrival of the Minister of Higher Education and Scientific Research
9.30 a. m.	Opening of the Conference
	Opening speech by the Minister of Higher Education and Scientific Research
	Statement by the Deputy Executive Secretary of the Economic Commission for Africa
	Statement by the Resident Representative of the United Nations Development Programme
	Statement by the representative of the Director General of UNESCO

- 10.30 a.m. Election of officers
Break
- 11 a.m. General remarks on the theme of the Conference by Prof. Marc Bopelet
- Presentation of reports of the Cameroonian scientific team by Prof. Félix Tchoua
- 3 p.m. Presentation of reports by the scientific teams from:
1. United States of America
 2. France
 3. Italy
 4. Federal Republic of Germany
- 4.30 p.m. Break
- 5 p.m. Presentation of scientific reports (continued)
5. Japan
 6. United Kingdom
 7. Switzerland

Tuesday, 17 March 1987

10.30 a.m. THEME 1: GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL ASPECTS

1. Freeth, S.J. The tectonic setting of the Lake Nyos disaster.
2. Tchoua, F. Origine et mode de formation du Lac Nyos.
3. Lockwood, J.P. Geological setting and origin of Lake Nyos.
4. Schenker, F. et al. A magmatological interpretation.
5. Devine, J.P. et al. Possible mantle metasomatism beneath the Cameroon Volcanic Line.

11 a.m.-12 noon

6. Kusakabe, M. et al. Role of lake water in 1986 Nyos gas disaster.
7. Kay, R. L. Hydrogeochemistry of Lake Nyos.
8. Chevrier, R.M. L'explosion du mois de décembre 1986 au Lac Nyos.
9. Zogning, A. Eruption et diffusion du gaz de Nyos : contexte géographique.

10. Tuttle, M.L. et al. Geochemistry of Lake Nyos: implications for the origin and accumulation of carbon dioxide.

3-4.30 p.m.

11. Oskarsson, N. Carbon dioxide bursts of Lake Nyos as periodic supersaturation in a counter-current reactor: implications of chemical monitoring and future prevention.
12. Le Guern, F. et al. Nyos 1986: the degassing process.
13. Giggenbach, W. Limits on composition and amounts of gas dissolved in waters of Lake Nyos.
14. Chévrier, R.M. Hydrogéochimie des eaux du lac Nyos et de son environnement.
15. Tazieff, H. Hypothèses publiées sur les mécanismes du phénomène, et choix correspondant à celle qui répond le mieux aux faits d'observation.

5-6.30 p.m.

THEME 3: HAZARD EVALUATION

1. Tietze, Klaus A newly discovered stratification on Lake Nyos.
2. Freeth, S.J. and Coulson, M.G. Evidence for the emission of toxic gas from Lake Nyos prior to the August 1986 disaster.
3. Faivre-Pierret, R.X. et al. CO₂ in the soil around lakes in Cameroon, origin and implications.
4. Sigurdsson, H. Gas bursts from anoxic crater lakes a natural hazard.
5. Baubron, J.C. et al. Stratégie pour l'évaluation et la zonation des risques d'éruptions gazeuses en République du Cameroun.
6. Obenson, ... Geophysical monitoring in Cameroon.
7. Sabroux, J.C. Limnic eruption: a new geological hazard.
8. Le Guern et al. Establishment of models of the natural convection in Lake Nyos.

Wednesday, 18 March 1987

Plenary sessions:

THEME 2: BIOMEDICAL, ECOLOGICAL AND AGRO-PASTORAL ASPECTS

9-10.30 a.m.

1. Kaptue, L. Manifestations cliniques observées chez les victimes.
2. Muna, W. Physiopathologie des manifestations cliniques.
3. Niat, G. Suivi des malades.
4. Njine, T. Evaluation des causes de la catastrophe du lac Nyos par une analyse des composantes physico-chimiques des lacs Nyos, Wum et Monoun.
5. Yamamoto, Y. Clinical and pathological study of Lake Nyos disaster victims and nature of poisonous gas.

11 a.m.-12 noon

6. Baxter, P.J. Health effects of natural and volcanic gases.
7. Monzali, C.H. et al. Effects of CO² at high temperatures on skin.
8. Mesfin D. Some health aspects of the Lake Nyos disaster.
9. Sallah, J. Effects of the Lake Nyos disaster on animals.
10. Epoh, J.T. Les effets de la catastrophe du lac Nyos sur les éleveurs et sur l'environnement.
11. Tutuwan, H. Ecological aspects of the Lake Nyos disaster.

3-4.30 p.m.

THEME 4: EVALUATION OF RISKS

1. Viewing, K.A. CO² levels in volcanic rocks of Archaen age in the Craton area, Zimbabwe.
2. Asfaw, L.M. Recent experience in Ethiopia on volcano-associated hazards.
3. Nanyaro, J.T. Meru and Kilimanjaro volcanic region in Northern Tanzania: need for surveillance of volcanic hazards.
4. Fairhead, J.D. and Djallo, S. Seismicity of the volcanic province of South-West Cameroon.

6. Wendorff, M. Oxidic and anoxic conditions of sedimentation in a geosynclinal basin.

5 p.m.-6.30 p.m.

Plenary sessions: SOCIO-CULTURAL AND ECONOMIC ASPECTS

1. Nkwi, P.N. and Ngu N. General assessment of the socio-economic consequences of the disaster.
2. Hinge, Paul (MINPAT/CER) Guidelines for the resettlement of the survivors of the Lake Nyos disaster.
3. Ms Lacroux (UNCHS/HABITAT) Rapport succinct sur la problématique et les perspectives de la ré-installation des sinistrés.

Thursday, 19 March 1987

Plenary session: PROBLEM OF SURVEILLANCE PREDICTION AND PREPAREDNESS

9 a.m.-10.30 a.m.

1. Tazieff, H. Prévention d'événements similaires à ceux de Nyos 1986.
2. Tchoua, F. Les catastrophes de Nyos et de Njijon, sont-elles prévisibles ?
3. Tomblin, J.F. The management of volcanic prediction, warning and evacuation.
4. Degrances, P.H. et al. Etude géochimique du lac Nyos.
5. El-Etr, H.S. Physical - Chemical processes of gas explosions: the case of Lake Nyos

11 a.m.-12 noon

6. Amamoo and Otchere Remote-sensing aspects of relief management of volcanic hazards.
7. Hassan, H.A. Satellite remote-sensing forewarning of active volcanies.
8. Browitt, C.W. Seismic data acquisition and telemetry.
9. Baxter, P. Disaster planning: Prevention health measures in volcanic eruptions.
10. MESFIN D. Rapid assessment of an emergency situation.
11. SCHENKER, F. et al. Prevention of gas eruptions by drilling operations: A proposal

3-6.30 p.m.

WORKING GROUPS:

Working Group A
Working Group B

Friday, 20 March 1987

9-12.30 p.m.	Working Groups continued
3-4.30 p.m.	Working Groups continued
5.30 p.m.	Closing Ceremony

Saturday, 21 March 1987

Sunday, 22 March 1987: Field trip to Lakes Nyos and Monoun (selected 35 participants only).

16. During the plenary sessions which lasted from Monday, 16 to Thursday morning, 19 March, discussions were made on the themes presented above in the agenda and programme of work.

17. After the presentation of all the papers at plenary sessions, the Conference then spilt into two working groups. Group A was to attempt to determine the causes and mechanisms of the Lake Nyos phenomenon as inferred from physical, chemical and bio-medical observations and examine the prospects for monitoring, prediction and public warning for emergency preparedness. Group B dealt with hazard evaluation and zoning and their implications for long-term preventive measures and land-use planning.

IV. CONCLUSIONS AND RECOMMENDATIONS OF THE CONFERENCE

PART I: THE LAKE NYOS DISASTER AND ITS CONSEQUENCES

A. The Geological environment

18. The basic reason for the catastrophic gas release from Lake Nyos on 21 August 1986 is ultimately related to the fact that Cameroon is dissected by a linear zone of crustal weakness that has served to localize volcanic activity. This zone, the so-called "Cameroon volcanic line" has been active for several million years, producing lavas and pyroclastic material. Lake Nyos was formed as a result of this volcanic activity. The deep-seated heat reservoir of volcanism is magma which, besides silicate constituents, contains differing amounts of volatile compounds in solution. These compounds are carbon dioxide, water, several sulphur species, hydrogen, hydrogen chloride and hydrogen fluoride. Carbon dioxide is by far the most abundant of these. Upon pressure release or slow in-situ cooling of the magma body, the volatile components exsolve from the magma as a gas phase. In the process of exsolution, the least soluble of these components leave the magma first. Carbon dioxide has a low solubility in magma and is therefore released from the magma in relatively larger amounts than the other components during the early stages of degassing.

19. After leaving the magma, the magmatic gas rises towards the surface, through permeable rock formations which are partly or wholly saturated with steam or liquid water. The gas, together with water and solid rock, constitute a highly reactive system which will consume all of the chemically active components of the magmatic gas phase, provided that the path of travel is long enough to complete the process. Due to its larger quantity and lower reactivity, carbon dioxide is the major component most likely to reach the surface. Being soluble in water, all or part of it may dissolve in the ground water along its path.

20. The mode of release of carbon dioxide of deep magmatic origin to the atmosphere is therefore generally via a water solution, as in the case of carbonated springs which discharge water that has been saturated with carbon dioxide at higher than atmospheric pressure. It is also possible that the carbon dioxide may accumulate in subsurface zones or voids and be released explosively to the atmosphere. Occasionally, the final part of the path of ascent may be a lake. As demonstrated by the catastrophic Lake Nyos event in August 1986, this can become a major natural hazard. Other recent catastrophes involving carbon dioxide where the gas burst from Lake Monoun in Cameroon in 1984 and the massive release of carbon dioxide to the atmosphere in a phreatic eruption at Dieng (Java) in 1979.

21. The Conference discussed at great length the wealth of scientific data that have accumulated as a result of the efforts made by a number of researchers since the Nyos event. These data can be grouped into a few partially overlapping categories:

(a) Geological observations which, with minor differences in emphasis, lead to the conclusion that Lake Nyos was formed at some time within the past millenium by a volcanic eruption. The chemical and mineralogical composition of the products indicate a deep origin, of the order of 90 kilometres below the surface. At the surface, the eruption products interacted with water and formed fragmental deposits. In the immediate vicinity of Lake Nyos, there are carbonated springs, which in addition to the presence of solid volcanic products, indicate recent volcanic activity in the area;

(b) Detailed analysis of water samples taken at various depths and at various locations in Lake Nyos, and at various times after the 21 August event, indicate that the Lake contains high amounts of dissolved carbon dioxide, which at present correspond to about 20 per cent of saturation of the water with respect to that component. Several lines of argument indicate strongly that the lake contained higher amounts of carbon dioxide before the event. The carbon dioxide dissolved in the lake is of deep magmatic origin, possibly expelled from the same magmatic reservoir that fed the volcanism that originally formed Lake Nyos. Due to the great depth of the source, all the reactive gases that left the magma at the same time as the carbon dioxide were consumed in reactions with water and wall rock on the way to the surface. The solubility of carbon dioxide and other gases in water increases with increasing pressure so that, although water itself is incompressible, a higher amount of dissolved gases in the deep waters of the lake increases the density of the solution. A stable density gradient was therefore established in the lake, creating a meromictic condition. This stability can be disturbed by several processes, but, once it is disturbed, a spontaneous degassing of the lake water can result in the release of a large amount of carbon dioxide in a very short time. Calculations based

on the chemical equilibria and thermodynamics involved in such a spontaneous degassing indicate that the amount of gas that could be released in this way from the waters of the lake is of the same order of magnitude as that of the fatal gas cloud which caused the Nyos catastrophe;

(c) Medical examination of victims and survivors of the catastrophe has shown that the cause of sudden death was suffocation (asphyxia) in a carbon dioxide atmosphere. The ailments of the survivors can also be generally attributed to inhalation of excess amounts of carbon dioxide gas. However, the presence of other gases cannot be excluded. Skin lesions were observed on a few corpses and in about a quarter of hospitalized survivors coming from all parts of the disaster area, nearly all of whom were reported also to have suffered from unconsciousness immediately after the gas release.

B. The cause and mechanism of the gas eruption in Lake Nyos

22. In spite of fairly comprehensive information that is now available on the present state of the lake, little is known about the lake as it was before the gas eruption. It is known however, that carbon dioxide-rich springs have been active in the Lake Nyos area at least since 1975. Any model constructed to explain the Nyos gas eruption will have to lean on some assumptions supported only by indirect evidence. Such arguments may assume different degrees of importance in the minds of different scientists. At the present state of knowledge, complete agreement on every detail of such a complicated natural phenomenon would be most unusual and even unnatural, since scientific progress depends on argument and counterargument. However, the Conference reached agreement on most of the essential aspects of the problem and was able to draw important conclusions that will help define what scientific work needs to be done in order to provide maximum safety to the people living in hazardous areas around Lake Nyos and other similar lakes in Cameroon.

23. Brief summary of evidence

(a) Lake Nyos is roughly circular, with an irregular shore line. Its surface area is about 1.5 square kilometre. It fills an elliptical, near-cylindrical depression, whose long axis is about 1,800 metres in a north-south direction. This has a flat bottom at a depth of 208 metres. The lake volume is about 0.17 cubic kilometres. The maximum lake level is controlled by a natural spillway at its north-western end;

(b) During the evening hours of 21 August 1986, a large volume of gas heavier than air was released from Lake Nyos. It swept over nearby villages killing more than 1,700 people and a large number of livestock;

(c) As inferred from the distribution of dead animals, a lethal concentration of gas reached a height of 120 metres above the lake surface. It spread subsequently to a distance of up to 25 kilometres from the lake, following the downhill topography;

(d) The distribution of animal and human casualties makes possible an estimate of the volume of potentially lethal gas mixture. The amount of carbon dioxide which degassed has been estimated at about 1 cubic kilometre. A 10 to 20 per cent mixture of carbon dioxide with air is potentially lethal, so that the total volume of the gas cloud responsible for death and injury is estimated to have been about 0.15 cubic kilometres;

(e) As inferred from the damage to vegetation (mainly in a nearby village) the moving gas travelled at a speed sufficient to flatten, anything in its path in some places;

(f) The lake turned dull red, due to the formation of a surface layer containing iron hydroxide and floating plant debris;

(g) Soil damage, apparently caused by splashing water, was most intense on the southern parts of the lake shore, and an 80 metres high promontory was partly stripped of vegetation and soil;

(h) About 5 per cent of 845 survivors who attended Wum and Nkambe Hospitals (including those hospitalized) in the six weeks after the disaster had weakness (palsies) of one or occasionally more limbs: swelling (oedema) of the affected limbs was often observed. Pressure on, or stretching of, nerves during coma was the most likely cause, but other aetiologies in some victims could not be ruled out;

(i) Eye inflammation (conjunctivitis) was present in numerous survivors but its precise significance (e.g. congestion from asphyxia or irritation by noxious gases) is not clear. These problems were soon resolved;

(j) After the event, the lake level fell approximately 1 metre lower;

(k) Vegetation was mechanically damaged by the event, but no thermal or chemical damage could be identified with certainty.

Two alternative scenarios to explain the above evidence are envisaged:

(i) Rapid degassing of carbon dioxide gas dissolved in the lake water;

(ii) Eruption of gases from beneath the lake floor in conjunction with volcanic activity.

24. The scientific data available so far tend to favour the first alternative, although it is possible that elements of both scenarios contributed to the Lake Nyos disaster. Extensive research is needed to clarify this.

Alternative A: Rapid degassing of carbon dioxide from
the lake water

The principal arguments for this scenario are based on the following observations:

(a) The present content of dissolved chemicals can best be explained as resulting from interaction between carbonated water and wall rock. The reaction rates leading eventually to the observed composition are slow, and the observed level of salinity could not have been reached in the short time between the gas eruption and the first sampling after the eruption;

(b) The temperature of the lake as a whole has risen since the event. Exsolution and expansion of a gas causes fall in temperature. The observed temperature rise is therefore consistent with degassing of the lake water;

(c) The deep water close to the bottom of the lake was essentially free from suspended solids at the time of sampling 12 days after the event;

(d) The amount of carbon dioxide required to form a lethal gas cloud of 1 cubic kilometre is only 0.15 cubic kilometre of pure carbon dioxide. This is a minimum value, but is significant, since the mechanical impact is less than if the amount of gas was several times the volume of the water body.

The triggering mechanism

25. If Lake Nyos was meromictic (i.e. with permanent density stratification), it could be described as a stable water body. However, the stability can be upset by several forces, which can be classified into two general groups: (a) forces which are released due to the internal physico-chemical properties of the lake as a dynamic system; and (b) external, mechanical forces which disturb the physico-chemical equilibrium. Several such triggering mechanisms have been suggested, but the available information does not allow a clear distinction between the alternatives to be drawn. It may nevertheless be concluded that, whatever the triggering mechanism, the lake must be charged with high levels of carbon dioxide in order to become a serious hazard.

The future according to the first scenario

26. The basic assumption of the first scenario is that the lake water contained all the carbon dioxide released during the tragic event of 21 August 1986. This carbon dioxide must have accumulated over a considerable but unknown period of time. The degassing event would not affect the carbon dioxide input and therefore accumulation continues, probably at the same, or a similar rate as before the event. Accordingly, the first scenario points to well defined monitoring methods.

Alternative B: Injection of gases from levels beneath the lake floor in conjunction with volcanic activity

27. The principal arguments in favour of this scenario are based on the following observations:

(a) Carbon dioxide is the major component of volcanic exhalations throughout the world. By analogy, and by considering the recent volcanic origin of Lake Nyos, it is natural to associate the gas eruptive event with active volcanism;

(b) The volume of the lethal gas mixture was estimated to be several times the volume of the lake water. Spontaneous exsolution of such a large volume of gas would result in a mechanical disturbance which is unaccounted for;

(c) The surface temperature of the lake was considerably above the mean temperature immediately after the event, and decreased gradually towards the mean over a period of several days. This observation is considered to indicate surficial heating by contact with warm volcanic gas, which penetrated the lake water but did not otherwise interact with the water, either thermally or chemically;

(d) Recent seismic monitoring in the area has recorded some local events;

(e) The medical findings could be explained by asphyxia caused by a gas such as carbon dioxide but this cannot be confirmed. The presence of other volcanic gases, e.g. hydrogen sulphide, cannot be ruled out;

(f) Several months after the main gas eruption on 21 August 1986, renewed activity was observed. This was probably of similar nature but smaller in scale than the main event. A red spot on the lake surface like the ones seen after the catastrophe was observed on 31 December 1986. Such a phenomenon has, however, been reported at other times.

The future according to the second scenario

28. A volcanic eruption is a stochastic event which is difficult to forecast, let alone predict. The pattern of a catastrophic event followed by smaller events is characteristic of many well-known eruptions and earthquakes. A volcano which awakens after an unknown, possibly long, repose period may go through several activity episodes closely spaced in time. The Nyos event may be a part of episodic activity which could be either: (a) a natural phreatic activity starting with the major event of August 21 and followed by decreasingly strong events; or (b) a precursor to a possible reactivated volcanism in that part of the volcanic area. Both alternatives suggest the application of commonly used monitoring methods.

C. MONITORING AND RESEARCH ON LAKE NYOS

29. It is recommended that the following parameters should be monitored during a period of at least one year:

Essential parameters, easy to monitor:

30. Thermal profiles, by means of thermistors or platinum resistance thermometers. Lake Nyos is a typical meromictic lake with a chemocline under normal conditions. However, observations of its thermal regime are essential because (a) heavy cooling of the mixolimnion may weaken the density stratification produced by solubles; (b) there have been statements, not yet firmly proven, that heating took place near the bottom of the lake. Both these possible processes can induce mixing of the lake and the release of carbon dioxide.

Transparency, using a Secchi disk

31. None of the investigations undertaken so far have considered the importance of transparency. Changes in transparency, induced not only by the dynamics of the phytoplankton and turbid material brought in by surface runoff and by diffuse sources during the rainy season, but also by the upwelling of water from the monimolimnion, which is rich in iron and manganese. On entering the mixolimnion zone with high oxygen content, iron and manganese will flocculate and thus influence transparency. Additional colorimetric analysis is highly desirable but not essential if colour changes are observed carefully (by simple methods such as the Forel-Ule scale).

Conductivity in-situ

32. The essential characteristic of every meromictic lake is its chemical gradient (chemocline). Any change in this gradient caused for example by oversaturation at any depth affects the lake's stability. Frequent conductivity measurements along vertical profiles would yield information not only about the transfer of solubles through the lake bottom but also on the dynamics of the process.

Carbon dioxide profiles measuring gas volume concentrations

Gas and matter release from the bottom

33. Measurement of this would contribute to the essential knowledge of the transfer mentioned under in paragraph 32 above, and result in the discovery of any "hot spots" that may exist in the flat bottom area.

pH in-situ and alkalinity

34. In combination with the conductivity measurements, they would contribute to a better understanding of both biogenic and inorganic chemical processes.

Oxygen and redox potential

35. Its distribution is confined to mixolimnia and may be an important parameter of the biogenic dynamics of the mixolimnion. Fluctuations of the oxygen-zero depth are of critical interest.

Material budget

36. Monitoring of the water budget (inflow and outflow) and of effluents, including dissolved and particulate matter such as iron, manganese, phosphorus and the oxides of nitrogen. Knowledge of fluctuations of the inflow is essential to explain any changes within the mixolimnia.

Meteorological parameters (wind, rain, barometric pressure, etc.)

Desirable parameters, needing more sophisticated equipment

3.2.1 Density measurements in-situ.

3.2.2 Careful echosounding and continuous seismic profiles of the lake bottom (direct observation by a bathyscaph), in order to detect possible sources of massive gas and/or water release.

3.2.3 Turbidity measurements. Data on turbidity are needed not only to evaluate the density, but to detect possible sudden upwelling water from deep layers or from the bottom layers containing sedimentary material.

3.2.4 Phytoplankton and zooplankton, as indicators of: (a) changes due parameters such as pH, etc.; and (b) paleoclimatic regimes and trends.

3.2.5 Sediment cores for evaluating the age of the lake and for obtaining evidence of any former catastrophic events (indicated by concentrations of plankton kill) or other chemical events.

3.2.6 Stable and radioactive isotopes of water and dissolved species:

- (a) Regular monitoring of oxygen, hydrogen and carbon isotopes;
- (b) Baseline-levels of radon and inert gases;
- (c) Radon levels after any future event, in order to discriminate between alternative hypotheses (enhanced radon contents would indicate a release of parent radioelements from surrounding or underlying rock within the preceding 30 days;)
- (d) Uranium isotopes, for better understanding of the hydrolic system.

3.2.7 Rate of erosion of the outlet, as an indicator of the age of the lake.

3.3 Other scientific studies and research in the Lake Nyos area

Geological mapping

37. A detailed geologic map of the area immediately surrounding Lake Nyos (ca. 25 square kilometres) should be made, in order to determine the distribution of all volcanic products, including pyroclastic ash deposits, scoria cones and lava flows. The mapping should also indicate the distribution of regional faults and lineaments. Attempts should be made to determine the relative and absolute ages of the features.

Remote sensing

38. Regional structures which may have contributed to the localization of volcanic features in the Lake Nyos area should be mapped, using the most detailed available remote sensing imagery.

Seismology

39. The present seismological network around Lake Nyos should be maintained, both as a local monitor and to give general information about possible seismic activity in the neighbourhood of lakes.

Co-ordination of data acquisition

40. In view of the number of scientific teams from different countries and institutions that have undertaken field studies of Lake Nyos since the catastrophe, and the fact that these and other teams are likely to pursue such studies further, as recommended by the present Conference, an appropriate mechanism should be established for liaison between the teams, for co-ordination of their data-collecting programmes and for the cataloguing and eventual exchange of the data obtained.

D. ACTION AIMED AT REDUCING THE HAZARDS AT LAKE NYOS

41. On the basis of the available scientific evidence, it is impossible to exclude the possibility that further potentially disastrous events may occur at the lake in the future. These may be: (a) further degassing of the lake water due to either of the two possible causes described in Section 2 above, or to other possible causes such as a strong earthquake; and (b) sudden failure of the volcanic material which is at present damming the outflow at the northern end of the lake, due to water infiltration, a strong earthquake or some other cause.

42. The Conference therefore examined various possibilities of reducing the probability of such events by technical means.

Controlled degassing of the lake water

43. Two possible methods were discussed by the Conference:

CO₂ rich bottom water of the lake could be progressively pumped out by the natural gas-lift method. To prevent underground conditions beneath the lake being disturbed, the rate of removal of bottom water should be about equal to the original rate of surface water outflow. Thus, without any significant change in the water level of the lake, the existing stratification would gradually sink and disappear. The result would be a lake consisting of rainwater with a relatively low content of minerals, and in which large quantities of gas could no longer accumulate. Care would have to be taken to control the rate of pumping, in order to avoid the risk of inducing an uncontrolled destabilization of a non-convective layer of the lake. The second method would consist in drilling from the outside of the lake into the hydro-thermal system beneath the lake. Bore holes reaching the hydro-thermal system underneath the lake could diminish the gas migration from underground into the lake, and thus tend to reduce the amount of carbon dioxide accumulating in the lake water.

Stabilization of the dam

44. Although there is no indication that a failure of the material damming the lake at its northern end is likely to occur in the near future, this risk should not be ignored entirely. It is therefore recommended that the stability of the dam be investigated as soon as technically possible.

There are two means by which the risk of dam failure could be reduced:

(a) Grouting of the dam, in order to reduce its permeability to water and to consolidate and strengthen the material;

(b) Progressive removal of material from the upper part of the dam, thus lowering the water level of the lake. Care would have to be taken in this case to avoid uncontrolled degassing of the lake due to a too rapid reduction in hydrostatic pressure.

Cost-benefit analysis

45. Since some of the actions envisaged above would be costly to implement, they should not be undertaken until detailed cost-benefit analysis have been

made, weighing the costs against the reductions in risk to life and property that would be achieved if they are successful.

E. RESETTLEMENT AND OCCUPATION OF THE LAND AROUND LAKE NYOS AND OTHER LAKES

46. The resettlement of disaster victims is a delicate human problem which always brings about profound changes in the way of life of the populations concerned. The close involvement of these populations in the operation is vital for its success. Their participation presupposes taking into consideration the socio-cultural and socio-economic factors that characterize their way of life. It also presupposes that ample information is collected and discussions are held between technicians of the local and national administration and the populations themselves.

47. These should focus on the wishes of the populations in relation to the scope for the development in the resettlement area. A resettlement operation can become an ideal occasion to rethink the development of the area that has been affected and launch, at the initiative of the populations, a pilot development project that will receive the support of the public authorities. In this way, the living conditions of both the resettled populations and the host populations will be improved. A co-ordinated effort carried out in the area itself by government authorities and the local population should be facilitated by the establishment of specific operational mechanisms.

48. The alternative of resettling the victims of the disaster in their place of origin or on other sites depends on the assessment of risks of danger and the preventive measures that can be taken. The recommendations relating to these two factors of decision concerning resettlement show that some studies are under way and others will be carried out before an effective prevention system becomes operational.

49. Together with actions recommended for the assessment and reduction of hazards in the area concerned, a quick permanent solution should be sought for the resettlement of the disaster victims who cannot stay any longer in the temporary situation represented by camps.

50. It is proposed that alternative solutions should be sought to resettle them first near the disaster area, then within the region (division or province). In order to determine the area, the following activities are recommended:

(a) A preliminary zoning map should be carried out in the light of the risks that we know in the lake region (see also section D). Zonation should include the identification of:

- (i) Valley bottoms, where settlements and permanent activities are not allowed;
- (ii) Zones where temporary activities could be carried out;
- (iii) High ground (except in the immediate vicinity of a lake) where settlement is allowed.

It must be considered that in the future it would be difficult to prevent people from going back to settle on the fertile lands of the disaster area

as and when the memories and fear of disaster fade, whether or not detection facilities are installed. In any case, the resettlement of the disaster area should be planned by the public authorities so that permanent houses are built on high ground.

(b) The occupation of farm and grazing lands should be analyzed, their potential assessed, and their ownership or tenancy regulated. Potential areas for farming or grazing will be determined on the basis of the rural development programme being implemented in the area;

(c) Considering the relatively high population density in the area, it would be desirable that the resettlement go hand in hand with an intensification of agricultural and stock-farming activities which will lead to an increase in productivity. In particular, cattle pest-control programmes will be necessary;

(d) Infrastructures and collective facilities for the villages should be provided in order to attract the people. Access roads will be a priority. The facilities should meet the needs of the victims and those of the people receiving them. Resettlement will thus be integrated into the development of any given area;

(e) The participation of the people concerned should be supported by public bodies. They should be given a sufficient measure of initiative in the building of houses, farming, grazing, etc. and at the same time they should be given the necessary help to permit them restart life, like providing them with building materials, tools, seed, livestock as well as means of information and training to enable them improve their production methods.

51. In addition, the feasibility and need for an epidemiological study of survivors should be considered, focusing on the possible long-term respiratory and neuro-psychiatric consequences of exposure to the gases.

F. PREDICTION AND WARNING OF FUTURE POTENTIALLY DISASTROUS EVENTS

52. The possibility of making predictions and issuing warnings of future potentially disastrous events, such as those that occurred at Lake Monoun and Lake Nyos, was examined by the Conference and it was made clear that no method of reliable prediction could be envisaged, at least until the recommendations given in section C above have been fully implemented. Until then, the authorities responsible for public safety should assume that any such events, if they occur, may occur without warning.

PART II: NATURAL HAZARDS IN OTHER AREAS OF NORTH-WEST CAMEROON

A. TYPES OF HAZARD

53. Two types of hazard must be considered: The possible occurrence of events similar to those at Lakes Nyos and Monoun (Type 1), or the renewal of magmatic activity along the active volcanic line of Cameroon (Type 2).

Type 1: The main hazard here is considered to be the emission of carbon dioxide, possibly mixed with some other gases such as hydrogen sulphide, from lakes in this region. An accompanying hazard is flooding through over-topping of a lake rim following lake

disturbance. Collapse of part of a lake rim would cause flooding, mud or debris flows, or landslides. An additional hazard consequent on lake disturbance is pollution or loss of water supply.

Type 2: Hazards arising from a renewal of magmatic activity, such as ash falls, pyroclastic flows, mud and lava flows have to be considered. Hazards from volcanic and tectonic earthquakes originating in the area have also to be considered.

B. IDENTIFICATION OF HAZARDOUS LAKES

54. In order to make best use of the resources available, it is necessary to determine some priorities for the investigation of lakes. A preliminary survey may show which lakes are likely to be hazardous, and which may be quickly shown to be safe. Criteria for selecting lakes for further investigation include: (a) the density of surrounding population; (b) their physical characteristics such as the nature of the lake (whether or not a crater lake), its size and depths, the potential of the rim for failure, evidence of nearby recent or present-day hydro-thermal or seismic activity, local legends referring to past events, etc.

55. Selected lakes should be further examined to determine the level of potential hazard. This should be done initially by simple surveys of bathymetry, chemical and thermal stratification, carbon dioxide content in the water and carbon dioxide flux in soil around the lake.

56. Lakes which, by their depths, stratification and CO₂ content are judged to be significantly hazardous should be monitored regularly and in a more detailed fashion.

C. LONG-TERM MONITORING OF HAZARDOUS LAKES

57. Those lakes found to be potentially hazardous should be subjected to routine monitoring in order to establish a long-term data base which will make it possible to judge the significance of any unusual change in one of the parameters, and eventually lead to a more intensive study of the lake and its surroundings for the purpose of surveillance and eventual warning. In particular, measurements should be made of the following parameters, either continuously or at regular intervals: Water level; profiles of temperature, density and CO₂ content in the lake; CO₂ content in the surrounding soil; meteorological parameters, particularly rainfall; seismic activity (one seismometer near each such lake).

58. It would also be helpful to obtain some sample cores of sediments from lakes thought to be hazardous and to seek evidence of past disturbances.

D. ZONATION OF LAKE HAZARDS

59. The main purpose of hazard zonation is to identify and map the areas liable to be affected in the event of one or more of the phenomena mentioned in section C above.

60. A preliminary zonation of the hazard associated with gas bursts from lakes would be based on a study of the topography of the surrounding areas

and on the experience of the spread of lethal gas from Lakes Monoun and Nyos during the recent disasters there. More precise zonation may be based on mathematical modelling of the propagation of a gas cloud, taking into account its volume and density, the main features of the local topography and various possible meteorological conditions. Parameterization of such models might be based to some extent on the results of research into the dispersal of industrial effluents into the atmosphere.

61. Zoning for flood hazards associated with the possibility of large volumes of water from lakes may be based on the results of the many studies already made throughout the world of flooding resulting from the failure of man-made dams.

B. GENERAL VOLCANIC AND SEISMIC HAZARD ZONING

62. In addition to hazards particularly associated with lakes and their water throughout the area, there is an overall hazard and volcanic activity and earthquakes. In addition to contributing to hazard on their own account, such events may also contribute to the triggering of lake overturning leading to gas emission and overspill.

63. Eruptions of Mount Cameroon are well known, the most recent being in 1982, and magmatic and phreatic activity could occur elsewhere along the Cameroon Volcanic Line as indicated by radiometric data and the recent history of monogenic basaltic volcanism. Similarly, earthquakes are known to occur along this line, but up to now have not been adequately monitored. As recently as January 1987, an earthquake of magnitude 5 occurred near Tibati and was felt over a wide area.

64. To evaluate these hazards more precisely and to improve understanding of the processes causing them, additional regional surveys should be carried out, including geological mapping of rock type and structure and surveys of geophysical parameters such as gravity, magnetism, conductivity and geothermal heat flux. Remote sensing techniques and satellite imagery appear to be useful in carrying out this work. Regional structures which have controlled the distribution of volcanic eruptive centres should be carefully evaluated from available and future remote sensing imagery. Particular attention should be paid to intersecting zones of weakness that could control the location of the future volcanic activity. Maps of these features should be used to evaluate anomalous seismic or geochemical activity which may be identified in the future.

65. Reconnaissance geological maps should be made of the areas immediately surrounding in North-West Cameroon. Such generalized maps should show the distribution of pyroclastic ash deposits and other volcanic products. Special care should be taken to evaluate the age of such deposits by careful observations of the degree of erosion.

66. It is further recommended that regional mapping of the abundance of elements and isotopic compositions of soil gases be undertaken, including carbon dioxide, helium, radon, etc., taking into account seasonal variations and contributions from respiration and fermentation processes within the soil. Stations that record data continuously should be set up near lakes containing high amounts of carbon dioxide at control locations, enabling correlations to be made of variations of gas flux with seismic data and water chemistry data.

67. The zoning of hazards associated with possible volcanic eruptions may be based on the methods described in the "Manual on Volcanic Hazard Zonation" published by UNESCO (Unesco, 1985).

68. Methods of seismic hazard zoning have been the subject of intensive study in many parts of the world, and abundant information of this subject is available in the scientific literature. Concurrently with seismic zoning, steps may be taken to formulate appropriate earthquake-resistant building codes.

69. For earthquake monitoring, the present network around Lake Nyos should be extended to link with the existing network in Cameroon, for which there are already plans for expansion. There should also be provision for the operation of mobile recording networks to study areas of particular interest or to investigate earthquake sequences and swamps. All institutions concerned with seismic monitoring should co-operate in network planning and sharing of data, and additional co-operation with institutes outside Cameroon is invited.

F. INTEGRATION OF HAZARD INFORMATION INTO REGIONAL DEVELOPMENT PLANNING

70. It is vital that emphasis be placed on disaster preparedness and planning at local community level both in the long-term and in the short-term. More specifically:

(a) In the short-term, the local communities are the critical operative (and analytic) units for the distribution of information in emergencies and for contingency plans for leadership and the rapid and appropriate distribution of resources;

(b) In the long-term, it is at the local, and specifically at the family and kinship level, that most rehabilitation occurs.

71. Towards this end, the requisite analyses of indigenous land tenure and settlement patterns, as well as agricultural and pastoral practices, should be available to the planning commissions, and suggestions should be solicited from the community.

72. The Conference therefore suggests:

- (i) That requests for relevant information be sent as soon as possible to every social scientist who has worked in the Bamenda Grassfields and to the resident members of voluntary organizations, in order to assemble a reservoir of information for planning;
- (ii) That emergency preparedness training be initiated for all resident relief mission personnel, for all educational staff, and for local community leaders.

73. In order to strengthen local involvement, it is suggested that local education authorities assist in preparing and organizing disaster preparedness training and programmes, aimed at stimulating awareness of the nature of the hazards and of the steps that can be taken to protect individuals and communities against them.

V. CLOSING OF THE CONFERENCE

74. In closing the Conference the Minister of Higher Education and Scientific Research, on behalf of the Head of State, the Government and people of Cameroon, thanked all the scientists and all those who took part in the Conference. He pointed out that he was particularly happy that, despite the divergence in opinion as to the causes of the Lake Nyos disaster, there was consensus as to the recommendations for developing an infrastructure to monitor the behaviour of Cameroonian lakes and their immediate environments and to develop capabilities for coping with such emergency situations in the future.

75. The Conference was then declared closed at 7.30 p.m. on 20 March 1987.



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Eighth meeting of the Technical
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Whole

Addis Ababa, Ethiopia
13-20 April 1987

Item 14 of the provisional agenda*

ECONOMIC COMMISSION FOR AFRICA

Twenty-second session of the Commission/
thirteenth meeting of the Conference
of Ministers

Addis Ababa, Ethiopia
23-27 April 1987

Item 6 of the provisional agenda**

REPORT OF THE NINTH MEETING OF THE JOINT ECA-OAU CONFERENCE
OF AFRICAN MINISTERS OF TRADE

* E/ECA/TPCW.8/1.

** E/ECA/CM.13/1.

I. INTRODUCTION

1. The ninth session of the Conference of African Ministers of Trade was held in Addis Ababa, Ethiopia from 19 to 20 March 1987. It was opened by Comrade Wollie Chekol, Member of the Central Committee of the Workers Party of Ethiopia and Minister of Finance. Statements were also made by the Executive Secretary of ECA and the Assistant Secretary General of the OAU. The meeting was preceded by a preparatory meeting of Intergovernmental Group of Experts on Trade which was held in Addis Ababa, from 12 -15 March 1987. The representative of the People's Republic of the Congo as Chairman of the Eighth Conference presided over the opening ceremony.

II. ATTENDANCE

2. The meeting was attended by representatives of the following countries: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Rwanda, Saharawi Arab Democratic Republic, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia and Zimbabwe.

3. The following organizations attended as observers: African, Caribbean Pacific Group of States, African Association of Trade Promotion Organizations, the Arab Bank for Economic Development in Africa, General Agreement on Tariffs and Trade, United Nations Conference on Trade and Development, United Nations Development Programme, International Trade Centre, Commonwealth Secretariat, Arab League, International Association of State Trading Organizations (ASTRO) and the African Centre for Monetary Studies.

III. ELECTION OF THE BUREAU

4. The meeting elected the following countries to constitute the bureau;

Chairman	-	Sierra Leone
Vice-Chairmen	-	Tunisia
	-	Zaire
	-	Uganda
	-	
Rapporteur	-	Zambia

5. On his assumption of office as Chairman of the meeting, Hon. Joseph Amra-Bangali, Minister of Trade and Industry of Sierra Leone, expressed appreciation of the outgoing bureau for the work accomplished since the Eighth Conference. He also expressed thanks for the confidence and honour reposed in his country, Sierra Leone. He therefore pledged that his bureau would work with dedication. He then stressed the importance of the issues before the meeting and observed that the level of participation was in itself proof of the seriousness which the African countries attached to these issues in the context of the promotion of intra-African trade. The excellent work accomplished by the Intergovernmental Group of Experts, the various opening statements were also positive catalyst to **fruitful** deliberations. There were nevertheless, serious problems and challenges to be faced but these were problems that all African countries would have to confront irrespective of their economic situation.

IV. ADOPTION OF THE AGENDA AND ORGANIZATION OF WORK

6. The meeting adopted the following agenda:

1. Opening ceremony
2. Election of officers
3. Adoption of agenda and programme of work
4. Review of recent trends in Africa's trade relations:
 - (a) Contribution of domestic and intra-African trade to Africa's economic growth and development
 - (b) Problems of land-locked, semi-landlocked and island African countries and prospects for transit trade
 - (c) Market research, trade information and trade promotion
 - (d) Report on the Fourth and preparation for the Fifth All-Africa Trade Fair
 - (e) Report on the activities of the African Association of Trade Promotion Organizations (AATPO)
 - (f) Major developments in Africa's international trade relations
 - (g) The impact of the activities of transnational corporations on Africa's trade
5. Review of Africa's submission to UNCTAD VII
6. Any other business
7. Date and venue of the tenth session
8. Adoption of the report and closure of the Conference

V. ACCOUNT OF PROCEEDINGS

Opening ceremony

7. At the opening of the Ninth Session of the Conference of African Ministers of Trade a message from Comrade Mengistu Haile Mariam General Secretary of the Workers' Party of Ethiopia Chairman of the Provisional Military Administrative Council and Commander-in-Chief of the Revolutionary Armed Forces, was delivered by Comrade Vellie Chekol, Member of the Central Committee of the Workers' Party of Ethiopia and Minister of Finance.

8. In welcoming the honourable Ministers to Ethiopia, Comrade Mengistu Haile Mariam pointed out that the Ninth Session of the Conference was taking place at a momentous time and coincided with the advent of the negotiations of the Group of 77 and the Seventh Session of UNCTAD. Thus, Comrade Mengistu recalled that the current international economic and political situations were inclement to the developmental interests of developing countries. They were characterized by the resurgence of protectionism, the persistent fall in the prices of commodities of interest to Africa, continued decline in the value of the dollar and the general instability of the exchange rates of the major world currencies. It was further pointed out that since in most African countries only two or three commodities generate as much as 90 per cent of their foreign exchange currencies, the issue of commodities remained crucial to Africa's livelihood in all its aspects.

9. The message regretted the fact that commodity agreements including the Common Fund have either failed to work or have not taken off. The situation had been further exacerbated by the rigidities in the agricultural policies of the industrialized countries which have resorted to heavily subsidizing their agricultural sector.

10. As regards the status of financial resource flows and Africa's external indebtedness, the message pointed out that Africa's aggregated debt has already exceeded the level of 200 billion dollars with the result that Africa has become a net contributor rather than a net recipient of external financial resources. In that context, Ministers were urged to direct their efforts towards improving conditions in international trade and financial relations so as to generate the required flow of external finance to boost Africa's trade and development in the fora of UNCTAD, the World Bank, IMF etc.

11. In Africa's economic recovery effort, the message went on to point out that while Africa expected external assistance, Africa should ensure its own economic liberation by seeking to implement the Lagos Plan of Action and the Final Act of Lagos which have charted out for Africa a multisectoral approach to its development. In case of the implementation of the Africa's Priority Programme for Economic Recovery and the United Nations Programme of Action for Africa's Economic Recovery and Development on the other hand, the message urged the international community to assist Africa with supplementary resources that Africa needed.

12. Turning to the issue of intra-African co-operation and trade relations the message noted the efforts being made and the progress recorded by the Preferential Trade Area for Eastern and Southern African States (PTA) and the Economic Community of West African States (ECOWAS). The contribution made in that direction by the first PTA Trade Fair held in Nairobi in 1986, the Clearing House, the Trade and Development Bank as well as the PTA subregional Federation of the Chambers of Commerce and Industry were cited as cases in point.

13. In conclusion, the message renewed to the Ministers the warmest greetings and welcome of the Workers Party, the Government and People of Socialist Ethiopia and wished the Conference every success.

14. The Executive Secretary of the Economic Commission for Africa (ECA), Prof. Adebayo Adedeji, welcomed the delegations to the Conference and thanked Comrade Wollie Chekol, Minister of Finance of Ethiopia, for the most illuminating message delivered on behalf of Comrade Mengistu Haile Marian, General Secretary of the Workers Party of Ethiopia, Chairman of the Provisional Military and Administrative Council and Commander-in-Chief of the Revolutionary Armed Forces. He took the opportunity to congratulate Comrade Wollie Chekol for his appointment to the post of Minister of Finance and that he would be missed in the Conference of Ministers of Trade because he was one of the founding fathers. He then recalled that the ninth session of the Conference was taking place against the background of increased uncertainty in the conditions under which international trade was taking place. The critical task facing the Conference therefore was to adopt concrete measures for translating commitments made in both the Lagos Plan of Action and Africa's Priority Programme for Economic Recovery into reality with the view of promoting self-reliance through trade.

15. Turning to issues of Africa's trade, Prof. Adebayo Adedeji stressed several matters of treat concern to African countries, in particular, the continuing decline in export earnings which are a result of falling commodities prices of major interest to the region. He illustrated this situation with the example of sugar from which African countries' earnings in 1985 were only US\$547.8 million from volume export of 2.7 million metric tons in 1985 as against US\$996.2 million for just 2.3 million metric tons in 1981. It was, therefore, a matter of grave concern that satisfactory solutions should be found to adequately compensate commodity producers for this kind of drastic falls in revenues.

16. Another important aspect of Africa's international trade relations was the slow rate of diversification process, since trade between Africa and non-traditional partners had not made any positive significant change both in terms of commodity composition nor in its overall share trade values. He therefore called for diversification of production and that the international community should genuinely come

to Africa's assistance within the framework of the UN Programme of Action for African Economic Recovery and Development with a view to accelerating the region's industrialization process.

17. He also drew attention of the meeting to the situation in the area of South - South trade, where the Global System of Trade Preferences (GSTP) had been recognized as an important mechanism in promoting co-operation among developing countries. Talking of the major preoccupation of African countries in this field he cited the attitude of some other developing countries to consider Africa as a source of raw materials and a market for their manufactured goods as unacceptable.

18. With regard to domestic and intra-African trade, he praised the establishment of numerous subregional institutions that had been devised to promote trade. He however regretted that their impact had not been significant and the share of intra-African trade in total Africa's exchanges had been actually declining in the recent years. The objective of developing intra-African trade requires not only restructuring of production, distribution and marketing but also the implementation of already agreed decisions adopted since the first session of the Conference of African Ministers of Trade. It was in the light of the above that intra-African trade should be given priority so that it can contribute to the overall efforts towards economic recovery and growth. The ECA Secretariat therefore proposed to launch a Decade for Domestic and Intra-African Trade 1988-1998 whose main purpose would be to focus on intra-African trade problems and prospects and to channel efforts and resources towards the implementation of the Lagos Plan of Action.

19. In conclusion, Prof. Adebayo Adedeji raised the issue of the impact of the activities of transnational corporations (TNCs) on Africa's trade, especially on intra-African trade flows. The main course of action in this field would be to adopt appropriate policies so as to increase the positive contribution of TNCs towards promoting African self-reliance and self-sufficiency. Finally, he reiterated that Africa's survival, to say nothing of its prosperity, in the coming decades would depend on the Africans themselves. He therefore expressed his belief that the meeting would give fresh impetus to current efforts towards Africa's economic recovery and development.

20. Ambassador M. Allouane, Assistant Secretary-General of the Organization of African Unity welcomed participants to the Ninth Session of the Conference of African Ministers of Trade. On behalf of the Secretary-General of OAU, he expressed the hope that the Conference would adopt workable decisions and recommendations that would help in the development and promotion of intra-African trade. The work of the Ministers over the last few days had focussed on the adoption of a common African position on all the issues to be discussed at UNCTAD VII which had been scheduled for July of 1987.

Their discussions had basically focussed on increasing the financial resources accorded on concessional terms to African countries in order to implement Africa's Priority Programme for Economic Recovery, seeking an acceptable solution to the external indebtedness of African countries, increasing the prices of basic commodities and export earnings as well as considering the special situation of African LDCs.

21. On intra-African trade, he underscored the fact that this sector complemented the other economic sectors and that the issues which would be debated at UNCTAD VII would relate to intra-African trade given the role that such trade played in the economic development of Africa. Currently, the volume of intra-African trade was very low. In percentage terms, the volume of such trade appeared to be diminishing in relation to Africa's trade with the outside world. However, it was his view that the volume of intra-African trade would speedily increase in pace with the rate at which the economic integration objectives of African countries were achieved in the key sectors of industry, agriculture, transport and communications.

22. Turning to Africa's participation in negotiation over the generalized system of trade preferences among developing countries, he stated that the African Ministers would have to consider this issue in view of the need for effective African participation in the preparation for those negotiations and in the institution of that system. Such participation need not impede the efforts being made to establish an African common market and to strengthen regional and subregional mechanisms for the economic integration of Africa. What was more, participation in other multilateral negotiations such as GATT, GSSTP and UNIDO should enable African to secure specific concessions that would contribute to the socio-economic development of the continent through the promotion of intra-African trade and economic co-operation.

23. In conclusion, he invited the African Ministers of ^{to} ensure that the activities being conducted in the subregional economic groupings took into account the long-term objectives of establishing an African economic community and an African common market which would form the cornerstone of African unity.

24. Comrade Poaty Souchlaty Alphonse, Minister for Trade and Small and Medium-scale Enterprises of the People's Republic of the Congo and outgoing Chairman thanked the Ethiopian Minister for Finance and the People of Ethiopia for the welcome accorded to all the delegations and said that the ninth session of the Conference of African Ministers of Trade and Development was being held at a time when the African continent was going through a deep crisis that affected its economic and social structure and threatened its development.

25. To tackle that situation, the governments and peoples of Africa should concentrate their efforts on specific priorities such as those selected in the United Nations Programme of Action for African Economic Recovery and Development 1986 - 1990 and Africa's Priority Programme for Economic Recovery that could lead to self-sustaining development.

26. The crisis was also gaining ground in international trade particularly as a result of the collapse in commodity prices and the dependence of African countries on a few primary commodities. He deplored the low volume of intra-African trade which was the result of almost no information on demand and supply, the lack of support from banks for developing the trade sector and the inadequacy of transport and communications infrastructure linking African countries.

27. An appropriate strategy to find suitable solutions to the problems should include those decisions that had already been taken, use studies on supply and demand for identifying obstacles to trade, encourage the free movement of economic operators and adopt appropriate incentives. There was also a need to increase the participation of African countries in the various negotiation machineries in order to adopt common positions. In that regard, UNCTAD VII was an excellent opportunity to make known Africa's demands on key issues such as the Common Fund, the Integrated Programme for Commodities, protectionism, the Generalised System of Preferences and compensatory financing.

28. With regard to the Uruguay Round of Multilateral trade negotiations, he stressed that the African countries should endeavour to protect Africa's interest throughout the negotiations among other things by strengthening the role of Chambers of Commerce and by signing trade agreements. In that context, he recalled the efforts undertaken by President Dennis Sassou Nguesso, President of the People's Republic of the Congo and current chairman of the OAU, towards the implementation of recommendations relating to Africa's international trade relations. Although his country's volume of trade with other African countries was very low, the Party and State were making considerable efforts to promote external trade by strengthening the role of chambers of commerce and signing trade agreements. In conclusion, his country really appreciated the trust it had enjoyed from African countries throughout its mandate and mentioned the activities undertaken by his country to implement the task entrusted to it.

29. His Excellency Mr. Abderahmane Toure, Minister of Trade of Senegal, expressed on behalf of the Conference, the heartfelt appreciation of all the delegations present to Comrade Mengistu Haile Mariam, Secretary-General of the Workers Party of Ethiopia, Chairman of the Provisional Administrative Military Council and Commander-in-Chief of the Revolutionary Armed Forces, to the Party, People and Government of Socialist Ethiopia for the brotherly welcome and the distinctly African hospitality that they had been enjoying since their arrival

in Addis Ababa. He went on to state that Addis Ababa was a choice place of reflection to which Africans were now well accustomed. The message that the Conference had received from Comrade Mengistu Haile Mariam was rich in lessons which would certainly guide and facilitate the work of the current session of the Conference of African Ministers of Trade.

30. In the discussions that followed the presentation of the report of the Intergovernmental Group of Experts on Trade the State Commissioner for External Trade of the Republic of Zaire said that the ninth session of the Meeting of the Conference of African Ministers of Trade was a useful opportunity to review the current status of intra-African trade and the share of African trade in international trade. Africa's economic situation still gave cause for concern and future prospects were not reassuring because of the unfavourable international economic environment.

31. New avenues should be explored to bring about the integrated development of Africa through the integration of African economies and the promotion of trade between African countries. Zaire was committed to supporting all initiatives that fitted in with the objectives of the Lagos Plan of Action and traditionally Zaire welcomed international co-operation and regional economic integration. With a view to contributing to the promotion of trade, his country would host the next CAU All-African Trade Fair in July 1988 in Kinshassa in October-November 1988. Zaire would also host the first-ever trade fair of the Economic Community of Central African States.

32. The various mechanisms established to improve Africa's external trade were inoperative. The most appropriate framework would be a global system of trade preferences among developing countries for which negotiations were ongoing. There was also a need to intensify intra-African trade through the promotion of economic integration and the elimination of the various barriers that hampered the free movement of goods and persons within the viable economic groupings.

Review of recent trends in Africa's Trade relations (Agenda item 4)

Contribution of domestic and intra-African trade to Africa's economic growth and development (Agenda item 4 (i))

33. The Chairman of the Intergovernmental Group of Experts on Trade introduced the report of the Group's meeting held from 12 to 14 March 1987 (E/ECA/CAU/TRADE/71). The Conference used that report as the basis for its discussions.

34. A number of delegations found the documentation to be relevant, thought-provoking and action-oriented. The meeting reiterated the fundamental importance of domestic trade. One delegation observed, however, that the document had not put enough emphasis on the lack of domestic savings which was one of the impediments to the development of domestic trade.

35. The Chairman of the Conference expressed the concern of the intergovernmental group of experts on problems of non-implementation of previous decisions and appealed to the ministers to take up this matter with their governments. During the discussion that followed, the ministers reiterated the need for African countries to redouble their efforts to implement the decisions taken by the Conference to promote intra-African Trade. To this end, they stressed the need for political commitment to encourage intra-African Trade. In addition a number of other obstacles to intra-African trade were identified which included the lack of supporting service industries to trade, diversification of production, confidence in African products and shortages of trained people in trade and trade promotion. The lack of harmonization of customs and other procedures, the problems of convertibility of African currencies, as well as a general lack of trade information were also highlighted among the critical problems facing the promotion of intra-African trade. Many other delegations stated that the reasons behind the stagnation of intra-African trade and obstacles to its expansion included the small size of national markets, the fact that industrial production policies were not harmonized; inadequate communications channels; control of distribution channels by foreign companies; external payments arrangements and the lack of political will.

36. It was suggested during the discussion that the secretariat should in future sessions present a report on the trade between members of subregional integration groupings, and that a follow up mechanism should be established to ensure the implementation of the decisions of the Conference.

37. A majority of delegations felt that while the idea of the Decade was appealing, instead of proclaiming 1988-1992 as the United Nations Decade for Domestic and Intra-African Trade, it would be more appropriate to try and implement the decisions that had already been taken by African Heads of State and Government with respect to the development of domestic and intra-African trade. The meeting felt that the United Nations Industrial Development Decade for Africa and the United Nations Transport and Communications Decade for Africa could help to solve some of the problems of domestic and intra-African trade.

38. The Conference reiterated the following decisions taken at its eighth session held in Brazzaville, Congo in October 1985:

(a) Domestic Trade

(i) a full study should be undertaken in each country to determine the food requirements of the population in all areas, in particular the different food grain requirements to form the basis for domestic trade. If necessary such a study should indicate ways of introducing new staple grains in areas of chronic shortages;

(ii) institute, with the collaboration of cooperative societies and commercial banks, more effective systems for providing credit to small holders and medium scale farmers and to small entrepreneurs involved in the production and marketing of simple goods including handicrafts. There must also be guaranteed prices for agricultural produce;

(iii) new programme should be implemented to ensure adequate supplies of raw materials and inputs specifically for the production for domestic markets, and the introduction of pricing policy with incentives to encourage farmers to increase their production and to become more integrated within the money sector of the economy;

(iv) establish proper trade distribution networks throughout the country as well as a system of buffer stock both in order to maintain steady price levels and to ensure adequate and even supplies during periods of high and low production. Such measures should include the establishment of physical plants and the development of transport facilities over long distances for goods and persons between the urban and rural areas through public investment or assistance to the private sector.

(b) Intra-African Trade

(i) That intra-African trade be increased to the tune of 10% of the world total trade by the end of 1995.

(ii) That increased efforts be made to progressively reduce and eventually remove trade and customs barriers to intra-African trade especially those affecting cash crops specifically those mentioned in the Lagos Plan of Action by the end of 1995.

(iii) That efforts be renewed to support and strengthen subregional institutions for trade promotion called for in the Lagos Plan of Action.

(iv) That significant improvements be made in intra-African trade information and marketing systems and systematically monitoring and evaluating trade performance by African countries.

(v) That all African countries should commit themselves and encourage the free movement of African traders and economic operators for the purpose of promoting intra-African trade. Furthermore, that prompt action be undertaken to increase and regularize border trade where necessary by creating border free trade zones within which traditional operators may continue to function.

(vi) That where circumstances permit, priority be given to African tenders for the provision of goods and services offered by or originating from other African countries.

(vii) That use of African airlines and shipping lines be increased for freight services and transportation of goods for intra-African trade.

(viii) That appropriate pricing policies and other incentives designed to encourage domestic and intra-African trade be encouraged, especially in food and food products.

(ix) That steps be taken to link trade development with progress in other sectors such as industry, agriculture, education and training, transport and communication as outlined in paragraph 76 of the Africa's Priority Programme for Economic Recovery 1986-1990 adopted by the 21st Summit of OAU.

(x) That prompt action be taken to develop adequate storage and distribution facilities for intra-African trade.

(xi) Called upon the Ministers of Transport and Communications to give priority to the creation or rehabilitation of inter-country roads and rail links likely to encourage the growth of intra-African trade with particular emphasis on feeder and access roads permitting for easier transportation of rural produce to the market.

(xii) Request ministries of industry, science and technology and energy to adopt appropriate policies and priority towards growth in intra-African trade in order to promote the structural adjustments needed in the region for development.

39. In addition, the Conference adopted the following decisions¹

(a) African countries and subregional and regional institutions should implement the decisions on domestic and intra-African trade in Africa's Priority Programme for Economic Recovery adopted by African Heads of State and Government.

(b) African Governments should launch campaigns to encourage the consumption of local products.

(c) African Governments should harmonize their industrial promotion policies in order to increase the prospects for trade with each other.

(d) African Governments should study the means to enable them to put an end to extroverted banking systems.

(e) Request the secretariats of the Economic Commission for Africa, the Organization of African Unity and subregional institutions including clearing houses and the African Centre for Monetary Studies to carry out specific studies on such topics as barter trade, the problems of small markets and the harmonization of industrial production policies in order to formulate specific proposals to make the established subregional economic communities more operational.

(f) That developed donor agencies be urged to accord appreciable priority to regional and subregional groupings in providing increased financial/development resources under regional programming facilities to support activities such as infrastructural and industrial development, trade in goods of local/regional origin which will enhance intra-African trade. For the effective implementation of such a policy, donor agencies should adopt a flexible and positive attitude in formulating criteria that will facilitate the rapid development of those factors necessary for accelerating intra-African trade.

(g) Urge member countries of regional and subregional groupings to give sustained maximum financial support to such groupings and to accord them the requisite political will that will ensure the rapid realisation of the goals and objectives of these groupings.

(h) That ECA secretariat should publish all resolutions and decisions taken by the Conference of African Ministers of Trade to promote domestic and intra-African trade.

(i) African Governments should reinforce their co-operation with the International Trade Centre UNCTAD/GATT which in 1973 was designated as the focal point in the UN system for technical co-operation in trade promotion. ITC's technical co-operation programmes at the national, subregional, regional and interregional levels cover inter-alia institutional infrastructure for trade promotion, product and market development including supply and demand surveys and related trade expansion follow-up activities; national Trade Information Services, subregional trade information networks and telexed market news services; specialized advisory services in export packaging, quality control and standardization, costing and pricing, national commercial representation abroad, export finance services, trade fairs and commercial publicity; chambers of commerce, commodity promotion as per UNCTAD resolution 152(VI); human resources development; import operations and techniques; special programme for LDC's, women entrepreneurs, etc.

(j) African countries should develop and implement vocational training programmes in the area of trade with a view to informing and improving skills of the African traders in the informal sector.

(k) Donor countries and organizations should be urged to provide resources for the implementation of the United Nations Transport and Communications Decade for African programmes in support of intra-African trade.

(l) member countries are urged to establish commercial banks and other trade supporting industries on each others' territories and to allocate increased financial resources to the trade sector.

Problems of African Landlocked, Semi-landlocked and Island countries and prospects for their improved transit trade
(Agenda item 4(ii))

40. On the above-stated agenda item the Ministers considered the relevant part of the report of the meeting of the Intergovernmental Group of Experts on Trade, ref. doc. E/ECA/CAU/TRADE/71. The Conference felt that the problems of those countries needed such urgent solution that the CAU secretariat should redouble its efforts to complete the study which they had initiated. The said study, it was recommended should be as comprehensive as possible. The ECA secretariat was called upon to follow closely the activities of the Indian Ocean Islands Commission.

41. In the lively debate that followed the presentation, the Conference was happy to note with appreciation the initiative taken by the CAU Secretariat in tabling such an important subject for the consideration of the Conference. It acknowledged that the paper was essentially a preliminary one with a lot of gaps to be filled. The conference therefore asked the secretariat to redouble its efforts to carry out a comprehensive study on the subject with a view to proposing very imaginative solutions to the concrete problems facing not only land locked countries but also the island and the coastal States as well as their inter-State relationships. The Conference adopted the following decisions:

(a) The CAU Secretariat in collaboration with the ECA, UNCTAD, the subregional and regional economic groupings in African should endeavour to carry out the said studies so as to address the concrete problems in all aspects.

(b) The question of the problems of African Land Locked, Semi-landlocked, coastal and island countries and the prospects for their improved transit trade should further be studied and a report submitted to the 10th Session of the Conference of African Ministers of Trade, to be preceded by the intergovernmental group of experts.

(c) The study should include:

- (i) a thorough assessment of existing transport corridors and propose measures to strengthen the corridors;
- (ii) a comprehensive examination of transit trade in Africa and propose policy measures which would facilitate this type of trade;
- (iii) propose measures for improvement of transit relationships between the coastal and landlocked countries on the one hand, and between coastal and island countries as well as landlocked and transit landlocked and semi-landlocked countries on the other, and relations between landlocked countries themselves.

- (iv) strengthening of cooperation at bilateral and multilateral/subregional levels, and between the transit and landlocked countries and the coastal and island countries as well as semi-landlocked countries;
 - (v) concrete measures to develop and expand inter-island trade,
 - (vi) assessment of transit regulations.
- (2) urge all African countries which have not yet done so, to sign and/or ratify the Convention on Transit Trade of Landlocked countries.

Market Research, trade information and trade promotion (Agenda item 4(iii))

42. Under this item the Conference considered some of the recent developments in the area of market research and trade promotion and the efforts made by some African countries as well as those taken by ECA to implement the decisions of its 8th session. There were however several problems in these areas which needed to be addressed, including those relating to institution building. A number of constructive proposals were made for alleviating the problems highlighted such as the promotion of joint ventures undertakings by African countries and export credit financing and insurance schemes.

43. The Conference reiterated the need for African countries to honour commitments and extend continued support to subregional and regional trade promotion institutions in order to avoid a financial crisis such as is threatening the very existence of AATPC and the newly established Federation of African Chambers of Commerce.

44. The Report of the First Regional Symposium on African State Trading Organizations (STOs) E/ECA/TRADE/68 which was held in Addis Ababa from 4 to 6 March 1987 was circulated to the Conference. In this regard, the beneficial role of the 200 African parastatal organizations or STOs involved in international trade and in promoting intra-African trade was highlighted and those STOs which were not yet members of ASTRO were urged to become members.

45. A representative of ITC stated that trade was given low priority in some development plans which, coupled with the lack of coordinated approach for trade in some cases had made the task of international organizations more difficult in their effort at finding solutions to the pertinent problems. ITC outlined its activities initiated within the PTA and the Indian Ocean Islands Commission on supply and demand surveys and hoped to repeat such initiatives for other African subregions.

46. The Conference adopted the following decisions which include those adopted at its eighth session:

(a) Implementation of the following tasks (i) the accelerated construction of intraverted transport and communications networks linking African countries; (ii) the establishment and/or strengthening of transit arrangements backed by credible multinational guarantees; (iii) the promotion of long term purchasing and counter purchasing arrangements including multinational marketing enterprises which would generate new intraverted distribution networks; (iv) the creation of trade financing mechanisms including export credit facilities, integrated intra-African oriented networks of commercial banks and the proposed African Monetary Fund to assist in the harmonization of monetary policies and payments (v) the establishment of subregional common markets and regional common market.

(b) New types of intra-African trade oriented distribution networks based on national private and public enterprises should be promoted.

(c) production and trade be linked within national development plans using a macro-marketing approach. Marketing-oriented planning techniques should be included in curriculae of national and subregional management and trade promotion institutes.

(d) National, subregional and regional trade promotion institutes should be reinforced and given necessary resources in order to function properly. Trade promotion funds should be established.

(e) African governments should extend their full support to the Association of African Trade Promotion Organizations (AATPO) and the Federation of African Chambers of Commerce. Fund raising actions should be undertaken to support market research and supply and demand studies.

(f) Member States should strengthen their co-operation in exchange of trade information through subregional and regional trade information systems co-ordinated by ECA with ITC's technical back-stopping.

(g) Secretariats of ECA and OAU devise means of rationalizing the activities of AATPO, the Federation of African Chambers of Commerce and ECA's Africa Trade Centre in order to avoid duplication and waste of resources.

Report on the Fourth All Africa Trade Fair and Preparations
for the Fifth All-Africa Trade Fair (Agenda item 4(iv))

47. The Ministers considered the agenda item 4(iv) dealing with the above subject in the light of the recommendations transmitted by the meeting of the Intergovernmental Group of Experts on Trade contained in Document E/ECA/OAU/TRADE/71.

48. After a few amendments to the text, the Ministers adopted the following decisions and the attached resolution:

(a) That a special message of congratulations and thanks should be addressed to the President of the Republic of Togo, General Gnassingbe Eyadema, to the Government and people of Togo for the exceptional efforts they deployed to make the Fourth All-Africa Trade Fair a success;

(b) That while taking note of the report and appreciating the successful outcome of the Fourth All-African Trade Fair and bearing in mind that such an instrument must be functionally used to create the desired impact on intra-African trade expansion, the OAU secretariat in collaboration with ECA, ITC and all relevant intergovernmental organizations, especially ECOWAS, PTA, SADC, ECCAS and the Indian Ocean Commission should conduct a thorough assessment of the impact of the previous All-Africa Trade Fairs;

(c) That the Conference takes note of the information provided by the delegation of Zaire, concerning the proposed date for the Fifth All Africa Trade Fair as 16 to 31 July 1988, in that connection enjoined all member States to refrain from organizing national trade fairs to coincide with the date announced and invite member States to take into account these dates when organizing their national trade fairs;

(d) That interested international organizations, such as ITC, the Regional Fund of the LCP-EEC Lomé Convention, UNDP, UNCTAD etc. should be urged to provide financial assistance and technical support in order to make the Fifth All-Africa Trade Fair a success;

(e) That "Promotion of Intra-African Trade: A Factor for the Integration of African Economies" be the theme for the Fifth All-Africa Trade Fair;

(f) Took note of the subvention of \$US500,000 granted by the Council of Ministers of the OAU in order to assist in subsidizing certain aspects of the organization of the Fifth All-Africa Trade Fair;

(g) That in order to provide the desired impact, the OAU secretariat in collaboration with ITC and other relevant agencies undertake a market survey prior to the Fifth Fair and carry out a technical assessment of the impact of that Fair with a view to publish a directory of firms and their commodities which would have feature in the Kinshasa Fair;

(h) That the composition of the Organizing Committee for the Fifth All-Africa Trade Fair is as follows:

Western Region: Togo (former host), Cote d'Ivoire and Ghana,

Northern Region: Algeria, Egypt and Tunisia
Eastern Region Ethiopia, Kenya and Tanzania
Central Region Zaire (Chairman), Cameroon and Congo
Southern Region Angola, Botswana and Zimbabwe

(i) That the terms of reference of the Organizing Committee is as follows:

- (i) To meet as **regularly** as necessary to ensure a successful preparation for and organization of the Fair;
- (ii) To prepare a budget and programme activities of Fair, including publicity, market survey and trade promotion;
- (iii) To organize symposia and cultural activities;
- (iv) In collaboration with the host government deal with all administrative arrangements and give all other technical advice in preparation for and during the Fair;
- (v) In collaboration with the host government deal with issues pertaining to the allocation of space on Fair grounds, including charges for space;
- (vi) To make recommendation to host Government on all facilitation procedures for exhibitors in respect of visas, customs formalities, air-freight, hotel tariffs, transport, hospitality, etc..
- (vii) To monitor the disbursement of subvention that is made available by the OAU Council of Ministers to the Fair;
- (viii) In conjunction with the OAU secretariat review the outcome of the Fifth All-Africa Trade Fair with a view to make substantial assessment and concrete suggestions aimed at creating the desired impact on intra-African trade to the Tenth Session of the Conference of African Ministers of Trade.

Report on the activities of the Association of African Trade
Promotion Organizations (AATPO) (Agenda Item 4(v))

49. The item was introduced by a representative of AATPO who underlined the seriousness of the financial crisis facing the Association. He referred to hardships being experienced by the Association's staff because they had not been paid their salaries and wages for eleven months. Thanking the host Government, ECA and OAU for the material and other support which they had given the Association, he said that AATPO's difficulties were due to non-payment of assessed contributions by the member States, and the fact that AATPO's policy-making organs were not invested with political capability commensurate with the Association's assignments and responsibility. He stressed that the European Economic Community was ready to provide a sum of US\$1.0 million to support its activities provided that the member States of AATPO demonstrated their support to the secretariat.

50. In the debate that followed sympathy for the Association was expressed by most delegates who spoke, although it was also regretted that the matter could not be discussed fully because of non-availability of some of the relevant documents especially the Constitution of the Association in all the working languages with proposed amendments. In particular the non-availability of the document in Arabic constituted a serious difficulty for the Arab-speaking delegations who could not therefore participate in the discussion of the item. While it was recognized that AATPO had a useful role to play in the development of African trade many delegations stated that the impact of this organization had not been felt in their countries. They also regretted that the studies requested by the Eighth Conference of African Ministers of Trade held in Brazzaville on the rationalization of the activities of AATPO, the Federation of African Chamber of Commerce and the Africa Trade Centre had not been carried out by the Secretariats. They urged that the tendency to set up several institutions with duplicative functions should be discouraged especially in view of the serious financial difficulties that often fetched these institutions. One delegation however observed that its country had been listed among those States which had yet to pay their contributions. Strictly speaking, Rwanda was not yet a member of AATPO because its legislative organs had not ratified the founding document of the Association.

51. Another important issue raised by some delegates related to possible duplication of work between AATPO and the Federation of African Chambers of Commerce. They wondered if the work of AATPO would duplicate the work being done by other institutions or the ECA Africa Trade Centre in the field of trade.

52. A representative of ECA assured the meeting that ECA had taken measures to avoid duplication of the work done and services rendered by the Commission, AATPO, the Federation of African Chambers of Commerce and the Africa Trade Centre. He informed the meeting that co-operation between ECA and AATPO was indeed being intensified and the cooperation would be ensured through joint programming and project execution, joint missions and through subcontracting by ECA to AATPO to undertake work on behalf of ECA. He expressed ECA's support for the measures which AATPO had proposed for solving its current problems and strengthening it. The ECA representative concluded by reiterating that AATPO had an important role to play in Africa's efforts towards trade promotion, marketing research and trade information. He assured the meeting of ECA's full support to the work of AATPO. He appealed to the meeting to take concrete decisions to resuscitate AATPO.

53. ECA's assurances were echoed by the representative of OAU, who informed the meeting that the organization intended to make more intensive use of the Association's services, since the latter was in effect the OAU's specialized agency in the field of trade development.

54. That the Joint Secretariat of the ECA/OAU, in Compliance with the 3th Conference of African Ministers of Trade held in Brazzaville in October 1965, should carry out the requested studies with the view of rationalizing the activities of AATPO, African Federation of Chambers of Commerce and Africa Trade Centre.

55. In his closing summary, the Chairman expressed the consensus which had emerged, that AATPO had a useful role to play in the development of Africa's trade, and that it should be supported and strengthened. The meeting appealed to the member States that had not done so to pay the arrears of their contributions.

Africa's International Trade Relations (Agenda item 4(vi))

56. Under this agenda item, the Conference noted the critical issues of major concern in Africa's international trade relations since the UNCTAD VI Conference in 1963. These included prices of major commodities of interest to Africa which remained low since 1960, low export earnings due to the low prices and the fall in the value of United States dollars, and protectionist policies of the Western countries. Furthermore, the ACP member States had experienced difficulties in taking full advantage of the provisions of the ACP-EEC Lomé III Convention compared with other non-ACP newly industrialized countries.

57. The Conference specifically stressed the generally disappointing performance of Africa's external trade relations. In respect to trade with other developing countries, the Conference stressed that COTR should be geared not only towards trade promotion but trade creation as well. On the trends of Africa's international trade

relations, it stressed the general poor performance of external trade due to the impact of protectionism; slow growth rate of trade between Africa and non-traditional partners, declining ODA and private investments. The Conference realized the measures which it had adopted at its Eighth Session, which should be implemented by member Countries. These included inter alia: halting and reversing protectionist policies and removal of distortions in trade; preservation of the basic principles and objectives of GATT, and the intensification of measures to improve Africa's trade relations within the context of the Africa's Priority Programme for Economic Recovery.

58. The Conference took note of activities, relating to trade promotion between Africa and Socialist Countries of Eastern Europe. In particular, it took note of the seminars/study tours for African officials in 1985/86 on a national, regional and interregional basis being organized jointly by UNCTAD and ECA. These activities were financed out of the UNDP/USCR Trust Fund and by a financial contribution made by the other socialist countries.

59. In regard to the Global System of Trade Preferences (GSTP) the Conference noted that so far 64 member States of the G-77 have decided to participate in the negotiations with 27 African States in the First Phases. It urged other African States to take the necessary steps to join the GSTP. In particular it urged the least developed African States to do so since they were not expected to reciprocate any concessions accorded to them during the negotiations.

60. In the discussions that followed, the Conference expressed its appreciations of the document before them and the manner in which the pertinent issues had been raised. There was general agreement that the unfavourable international trade environment was detrimental to Africa's development prospects and that there was a need for some flexibility in the policies of industrialized countries towards Africa in the field of trade.

61. Some delegations sought clarifications on the present situation regarding the Common Fund and felt that its early implementation would assist Africa in its development efforts. The Conference urged African countries that had not yet done so, to sign and/or ratify the Agreement on the Common Fund, in order to make it operational without any further delay.

62. With regard to Africa's trade with Socialist countries of Eastern Europe, the Conference felt that such trade was important as a means of diversifying trade channels. Consequently, measures should be intensified to increase such trade. To this end the Conference emphasized that the ECA paper should have elaborated in detail, all issues pertaining to trade with Socialist countries. Lack of information on trade opportunities with the Socialist countries was cited as one of the major factors inhibiting trade promotion with the Socialist countries. Steps taken in some countries to inform on that situation were mentioned. The need to implement the recommendations of the Eighth Conference of African Ministers of Trade addressed to UNCTAD/ECA/OAU Secretariats was stressed, so as to assist member States to penetrate markets of the Socialist countries.

63. Concern was also expressed about the poor participation of African countries in the Multilateral Trade Negotiations and in the Global System of Trade Preferences (GSTP). The Conference recommended that the OAU/ECA Secretariat should, after due consultations with OAU Member States, convene special meetings to articulate and adopt an African position on the important trade issues which form the basis for the on-going Multilateral Trade Negotiations within the framework of GATT. In this connection, the Conference called upon the OAU secretariat to speed up steps being taken to secure observer status within GATT.

64. The Conference took note of the information provided by the GATT representative regarding the background to the launching of the Multilateral Trade Negotiations (the Uruguay Round), the objectives of the negotiations as well as measures being proposed to facilitate and strengthen the participation of the developing countries in the negotiations, such as technical assistance and a seminar on the themes of the Uruguay Round and on techniques of negotiations scheduled to take place in Dakar (Senegal) next April.

65. In conclusion, the Conference decided that UNCTAD, UNDP, ECA and OAU should continue to assist African countries in the promotion and the strengthening of their trade relations with the Socialist Countries of Eastern Europe and to further assist them in their negotiations with respect to the MTN and GSTP.

Impact of Transnational Corporations on Domestic and Intra-African Trade (Agenda item 4(vii))

66. The Conference considered this agenda item which was dealt with in Chapter IV of document E/ECA/TRADE/33 entitled "The impact of Transnational Corporations on Domestic and Intra-African Trade". Transnationals continue to have a widespread control over domestic and intra-African trade but in a rather negative manner. Moreover, transnationals have considerable influence on trade related sectors in the African economies, especially with regard to the means of production, the transfer of technology, the marketing and distribution of products, trade balance and balance of payments equilibrium of African countries.

67. The Conference recommended a number of concrete measures which could be initiated by African countries: to try and maximize benefits from transnationals, to start a new dialogue with transnationals at the national, subregional and regional levels with a view to identifying areas in which transnationals could integrate their activities into the development process of African countries.

68. The Conference noted that it was the responsibility of each African government to initiate the required appropriate action. Similarly, to determine and indicate priority areas and sectors where transnationals could operate or where they could invest. A certain number of delegations also pointed out that it was unrealistic to think that transnationals were guided in their actions by philanthropic considerations. The meeting acknowledged that it would equally be unrealistic to expect transnationals to co-operate fully with the host countries if they were forced to invest in areas or sectors in which they had little or no interest since their investment is often determined by the returns or profits which they repatriate to their parent companies.

69. The Conference emphasized the fact that in spite of the above, African countries should find a solution to the problems created by the TNCs. It was agreed that it was the responsibility of each individual country to take the required necessary action in the light of the peculiarities of each case. It is with this background in mind that a number of delegations suggested that affected countries should also plan and establish integrated projects in order to alleviate some of the adverse effects created by the TNCs; establish efficient tender mechanisms allowing for competitiveness of African tenderers; undertake feasibility studies for African joint trade and transport enterprises aimed at replacing the work that is done in these areas by transnationals.

70. The Conference noted that the set of Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices adopted by the General Assembly in 1980 was not a binding instrument. For that reason developing countries sought at the February 1987 meeting of the Intergovernmental Group of Experts on Restrictive Business Practices to establish a special committee to monitor observance of obligations on TNCs under the code. This proposal was rejected by a group of industrialized countries. This group also insisted on their prior approval of the outlines of studies by the UNCTAD secretariat. This was not acceptable because it was contrary to normal practice. However, the UNCTAD secretariat would continue to explore ways of making progress in this area.

71. The Conference also recalled some of the rules controls relating to the Code of Conduct which is being negotiated in the United Nations forum and noted that some TNCs were trying to delay the adoption of the Code of Conduct. The Ministers reiterated the paramount importance of the Code to developing countries in general and to African countries in particular. The Eighth Session of the Conference of African Ministers of Trade had already recommended that African countries should actively participate in the elaboration of the Code and ensure its implementation.

72. The Conference emphasized the need for TNCs to respect the regulations of the host African governments. In fact, many of these regulations could be incorporated into the envisaged Code of Conduct currently under drafting. The big question was to know if the Code's application would be obligatory or voluntary. Case studies of alternative solutions to TNCs were being presented to the next session. As far as TNCs' role in South Africa and Namibia was concerned the Conference noted that this question had been discussed in several publications and in a number of forums under the auspices of the United Nations and at the United Nations Headquarters in New York by the TNCs centre. Such publications ought to be put at the disposal of delegations at their request.

73. The Conference adopted the following action intended to enhance the contribution of TNCs towards domestic and intra-African trade:

(a) That TNCs be asked to desist from adopting restrictive business practices against indigenous enterprises including the denial of export credit financing and export credit insurance to African traders who are genuinely struggling to promote domestic and intra-African trade.

(b) That TNCs should be asked to channel part of their resources towards providing financial resources to the development of the rural areas and specifically for agricultural processing including food, water resource development, transport and communications, health and social infrastructure. Since the rural population forms the backbone of the economies of the African countries a balanced growth and development between urban and rural areas would enhance the purchasing power of the rural populations. Hence their demand for manufactured goods will increase to the benefit of TNCs. Furthermore, the present economic structure indicates the existence of growth points in the form of small urban centres within the rural areas which reinforce domestic and intra-African trade especially in border areas. These growth centres do promote overall growth of the economies and thereby enhance the demand for more sophisticated goods generally produced by TNCs.

(c) That TNCs should assist the host countries in which they operate in their efforts to attain self-sufficiency in food production especially at the subregional level. To this end, they should assist in efforts to develop the technical and managerial know-how and skilled manpower to improve production, storage, distribution and marketing so as to reduce its costs in order to fully exploit the African market. Joint ventures and other production sharing multi-lateral arrangements for intra-African trade would remove the excess capacity in many African enterprises while improving the quality and unit cost. It must also be emphasized here that the TNCs trade structures set up within the existing African economic groupings will eventually level-off in terms of growth unless industrial production, as well as distribution systems, can be directly linked with domestic and intra-African trade.

(d) That TNCs should be persuaded, where possible, to share advanced statistical information and market intelligence, trade promotion and market analysis techniques with their trade partners in the host countries (both state trading and private indigenous enterprises). To this end, they should assist African countries to develop informative and computerized transborder data flows systems in order to monitor and record intra-African trade transactions.

Review of Africa's submission to UNCTAD VII (Agenda item 5)

74. The Conference decided that since all delegations had participated in the preparation of Africa's submission to UNCTAD VII, in the recently concluded Ministerial Meeting Preparatory to UNCTAD VII, it would not be necessary to reopen discussion on the agenda item.

Any other business (Agenda item 6)

75. There was no debate under this agenda item.

Date and venue of the tenth session (Agenda item 7)

76. The Conference recalled since its meetings take place every two years, the next meeting would be held in 1989. In view of the need to submit the report to the ECA Conference of Ministers which is always held in April, it was decided to hold the tenth session in March 1989 at a date to be agreed between the Joint secretariat and the Chairman.

Adoption of the report and closure the Conference (Agenda item 8)

77. At the end of its deliberations, the Conference adopted this report.

78. In his closing statement, the chairman recalled the tremendous work accomplished by the Conference. He highlighted some of the progress made by a number of African countries in spite of the many hardles which had to be overcome. He went on to state that it was gratifying that progress had been made towards strengthening national institutions for promoting domestic trade in the wake of the Lagos Plan of Action. He also reminded the Conference that desired changes could not be made without clearing many of the bottlenecks impeding Africa's ardent desire to move forward the frontiers of intra-African trade.

79. He concluded by suggesting to the Conference the need to cultivate and sustain the right political will at national level, preparedness to implement decisions of properly constituted and competent authorities, the adoption of appropriate package policies and supporting measures designed and harmonized fiscal and monetary policies with a view to bringing about symmetry and flexibility in policy breadth. Such actions he stated, would enhance meaningful, effective, energetic and lasting changes given the support of the OAU and ECA which are sensitive organs responsible for the cross-fertilization of knowledge, information and ideas in enhancing the emancipation of Africa's trade.

1. RESOLUTION ON THE FOURTH ALL-AFRICA TRADE FAIR AND
PREPARATIONS FOR THE FIFTH ALL-AFRICA TRADE FAIR

The Conference of African Ministers of Trade

Bearing in mind the previous OAU Council of Ministers resolutions since 1967 especially its CM/Res. 277(XIX) institutionalizing the All-Africa Trade Fairs and the decision of the Second Extra-Ordinary Session of the Assembly of Heads of State and Government of the OAU in April 1980 contained in the Lagos Plan of Action to, inter alia, launch a permanent 'Buy African Goods' campaign within the framework of the All-Africa Trade Fair;

Recalling the decision of the third meeting of the Ministerial Follow-up Committee of the Whole on Trade and Finance held in Addis Ababa, Ethiopia from 9 to 14 May 1984 to accept the offer of the Republic of Togo to host the Fourth all-Africa Trade Fair

Having taken note with deep appreciation, of the part one of the report of the OAU Secretariat on the Fourth All-Africa Trade Fair which took place in Lome, Togo from 18 November to 8 December 1985;

Recognizing the special attention demonstrated and contribution made by the President of the Republic of Togo, H.E. General Gnassingbe Eyadema in enabling a successful outcome of the Fourth All-Africa Trade Fair

Further recognizing the functional role that the All-Africa Fair could play in developing intra-African trade, judging from the results of the Lome Fair in terms of the level of participation, the structure and wide range of goods and the production capacity and potential exhibited;

Further recalling its decision adopted in Brazzaville, the Congo in October 1985 during the eighth session of its meeting to accept the offer of Zaïre to host the fifth All-Africa Trade Fair, the Conference of African Ministers of Trade.

PART I FOURTH ALL-AFRICA TRADE FAIR

1. Requests the Secretary General of the Organization of African Unity to transmit, on behalf of the Conference of African Ministers of Trade, a special message of congratulations and thanks to the President of the Republic of Togo, H.E. General Gnassingbe Eyadema, the Government and people of Togo for the exceptional efforts deployed to make the Fourth All-Africa Trade Fair a success;
2. Directs the Secretary General of the CAU, in collaboration with the ECA, ITC and all relevant intergovernmental organizations, especially ECOWAS, PTA, SADC, ECCAS and the Indian Ocean Commission, to conduct a thorough assessment of the impact of all the previous All-Africa Trade Fairs and to report to the next Conference of African Ministers of Trade.

PART II FIFTH ALL-AFRICA TRADE FAIR

1. Takes note of the preparatory activities so far undertaken by all concerned
2. Notes and approves the 16-31 July 1980 as the date of the Fifth All-Africa Trade Fair
3. Urges all member States to refrain from organizing national trade fairs on dates which coincide with the date announced for the Fifth All-Africa Trade Fair;
4. Urges donors to provide financial assistance to collaborating agencies, such as ITC, the Regional Fund of the ACP-EEC of the Lome Convention, UNDP, UNCTAD etc. in order to enable them lend financial assistance and technical support to make the Fifth All-Africa Trade Fair a success;
5. Endorses the choice of "Promotion of Intra-African Trade: A factor for the integration of African Economies" as the theme for fifth fair;
6. Takes note with deep appreciation of the subvention of \$US500,000 granted to the Fifth All-Africa Trade Fair by the Council of Ministers of the Organization of African Unity.

7. Directs the OAU Secretariat, in collaboration with the ITC and other relevant agencies, to undertake a market survey prior to the Fifth Fair and carry out a technical assessment of the impact of the Fair.

8. Approves the composition of the Organizing Committee of the Fifth All-Africa Trade Fair as follows: Togo, Cote d'Ivoire, Ghana, Algeria, Egypt, Tunisia, Ethiopia, Kenya, Tanzania, Zaire (Chairman), Cameroon, Congo, Angola, Botswana and Zimbabwe.

9. Further approves the terms of reference of the Organizing Committee of the Fifth All-African Trade Fair as contained in the report of the Ninth Conference of the Ministers of Trade.

2. RESOLUTION ON AFRICA'S TRADE WITH SOCIALIST COUNTRIES
OF EASTERN EUROPE

The Conference of African Ministers of Trade

Considering the necessity for promoting and diversifying Africa's external trade with non-traditional partners in particular with the Socialist countries of Eastern Europe requires intensive and continuous efforts including through the multilateral organizations;

Noting with satisfaction that ECA and UNCTAD had already initiated activities in this field in conformity with the various decisions of Trade and Development Board as well as of the eighth session of Conference of African Ministers of Trade;

Considering the need of African countries in this field;

1. Requests OAU, ECA, UNCTAD and Socialist countries of Eastern Europe to intensify their technical assistance activities in this area and consequently request UNDP and the Socialist Countries of Eastern Europe to allocate necessary resources to these organizations in order to fully implement their programme of training, dissemination of information and advisory services on a regional, interregional and national basis.
2. Further requests the Secretary-General of OAU, the Executive Secretary of ECA and Secretary-General of UNCTAD to report on this subject at the 10th session of Conference of African Ministers of Trade.

3. RESOLUTION ON THE ASSOCIATION OF AFRICAN TRADE PROMOTION
ORGANIZATIONS (AATPO)

The Conference of African Ministers of Trade

Having examined the report on the critical financial and administrative situation of the Association of African Trade Promotion Organizations (AATPO).

Recalling that the Lagos Plan of Action assigns to AATPO an important role in the development of intra-African trade;

Being cognizant of AATPO's potential to discharge its responsibilities provided it is furnished with the necessary wherewithal;

Noting however, that the Association has not been availed the necessary resources to the extent required by its responsibilities and commitments, and in particular that many of the Association's members are in arrears with their contributions to the Association's budget, and that this threatens the very existence of the Association;

1. Urges the States members of the Association of African Trade Promotion Organizations (AATPO) to pay to the Association their current assessed as well as arrears of their assessed contributions to the Association.
2. Appeals to all OAU and ECA member States who are not yet members of AATPO to join the Association at the earliest opportunity.
3. Calls on the Secretary-General of the Organization of African Unity (OAU) and the Executive Secretary of the Economic Commission for Africa (ECA) to give all possible financial and technical support to AATPO and to carry out the studies requested by the eighth session of the Conference of African Ministers of Trade.
4. Appeals to the United Nations Development Programme (UNDP) and the European Development Fund (EDF) to give all possible financial assistance and other support to AATPO.